

Listing of Claims:

1. (Currently Amended) A liquid ejection apparatus
comprising:

a liquid ejection head having a nozzle with an inner
diameter of at most 15 μm ;

5 an ejection voltage supply to apply an ejection voltage to a
solution inside the nozzle so as to charge the solution, the
ejection voltage supply including an electrode which contacts
with the solution to charge the solution;

a convex meniscus generator to cause the solution inside the
10 nozzle to rise from the nozzle in a convex shape; and

an operation controller to control application of a drive
voltage to drive the convex meniscus generator and application of
the ejection voltage by the ejection voltage supply so that the
drive voltage to the convex meniscus generator is applied in
15 timing overlapped with the application of a pulse voltage as the
ejection voltage by the ejection voltage supply;

wherein the operation controller controls a voltage having a
reversed polarity to the ejection voltage to be applied by the
electrode to the solution inside the nozzle just before or just
20 after the ejection voltage is applied to the solution inside the
nozzle.

Claim 2 (Canceled).

3. (Original) The liquid ejection apparatus of claim 1,
wherein the operation controller applies the drive voltage to the
convex meniscus generator in advance, and also in timing
overlapped with the application of the ejection voltage by the
5 ejection voltage supply.

4. (Original) The liquid ejection apparatus of claim 1,
wherein the liquid ejection head includes a plurality of nozzles
each of which has the convex meniscus generator.

Claims 5 and 6 (Canceled).

7. (Original) The liquid ejection apparatus of claim 3,
wherein the liquid ejection head includes a plurality of nozzles
each of which has the convex meniscus generator.

Claim 8 (Canceled).

9. (Previously Presented) The liquid ejection apparatus of
claim 1, wherein the inner diameter of the nozzle is between 0.2
 μm and 8 μm .

10. (Previously Presented) The liquid ejection apparatus of claim 9, wherein the inner diameter of the nozzle is between 0.2 μm and 4 μm .

11. (New) The liquid ejection apparatus of claim 1, further comprising an opposing electrode having an opposing surface which faces a top portion of the nozzle and which supports a substrate.

12. (New) The liquid ejection apparatus of claim 4, further comprising an opposing electrode having an opposing surface which faces top portions of the plurality of nozzles and which supports a substrate.

13. (New) The liquid ejection apparatus of claim 12, wherein the opposing electrode is provided in common for the plurality of nozzles so as to face the top portions of the plurality of nozzles.

14. (New) The liquid ejection apparatus of claim 4, wherein the ejection voltage supply is provided in common for the plurality of nozzles so as to apply the ejection voltage to the solution inside each of the plurality of nozzles.

15. (New) The liquid ejection apparatus of claim 1, wherein the liquid ejection apparatus is provided in an ink jet printer.

16. (New) The liquid ejection apparatus of claim 1, wherein the inner diameter of the nozzle is uniform through a length of the nozzle.

17. (New) The liquid ejection apparatus of claim 1, wherein the inner diameter of the nozzle is tapered.

18. (New) The liquid ejection apparatus of claim 17, wherein the inner diameter of the nozzle is larger at a solution-chamber side of the nozzle and gradually decreases toward an ejection-opening side of the nozzle.

19. (New) The liquid ejection apparatus of claim 1, wherein the nozzle has a substantially conical shape.

20. (New) The liquid ejection apparatus of claim 1, wherein the nozzle has a height of approximately 100 μm .